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ABSTRACT

The purpose of the National Assessment of Educational Progress is to determine what young Americans know and can do, and to measure changes in their educational achievement over time. Several learning areas are monitored: reading and literature, writing, mathematics, science, social studies and citizenship, art, music, and career and occupational development. Each area is assessed every four to eight years through representative sampling of students and non-students at ages nine, thirteen, seventeen, and from twenty-six to thirty-five. National results are reported for each age group by region, sex, race, size and type of community, and level of parental education. Technical reports are prepared for use by the public, by policy makers, and by practitioners. Currently an effort is underway to increase the utilization of the information provided by the National Assessment program, which can be used directly or indirectly at several levels of program planning. This document describes several typical and possible uses for the assessment products available through the program. (Author/PGD)

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NATIONAL ASSESSMENT: POLICY DECISION INFORMATION

A Paper Prepared for the
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the American Educational
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NATIONAL ASSESSMENT: POLICY DECISION INFORMATION

The purpose of the National Assessment of Educational Progress is to determine what young Americans know and can do --at a given point in time-- and to measure changes (growth or decline) in their educational achievement over time. The program which represents a unique cooperative venture of the federal government and the education community, is a congressionally authorized project of the National Institute of Education and is administered by the Education Commission of the States.

National Assessment monitors ten learning areas: reading-literature, writing, mathematics, science, social studies-citizenship, art, music and career and occupational development. Representative national samples of 9-, 13-, and 17-year-old students, and in some areas, out-of-school 17-year-olds (drop-outs and early graduates) and young adults aged 26-35, are assessed. Each learning area is assessed every four to eight years in order to gather data necessary to answer the following types of questions.

1. What is the current level of performance by 9-, 13-, and 17-year-olds; for example, what percent of the nation's 9-, 13-, and 17-year-olds can compute using whole numbers?

2. Does the data show growth or decline in student performance from the previous assessment(s) of the learning area; for example, did the performance of 13- and 17-year-olds in the area of mathematical problem-solving improve or decline between 1973 and 1978?

3. How do various groups of young Americans tend to perform in relation to the national average for their age group; for example, how do students from extreme rural areas or disadvantaged urban areas perform in relation to the nation?

4. Are the differences in performance by various groups staying the same or are they changing over time; for example, have females and blacks improved their performance relative to the nation in mathematics?

Approximately 1,500 schools participate in each year's assessment. The sample size for every assessment package administered at an in-school age is between 2,200 and 2,600 respondents. Depending upon the number of packages being assessed at each age, the total sample size for an assessment year has been between 70,000 and 100,000 individuals.

Student names are not recorded on the tests. They are used only for selection of the local sample. Thus students are guaranteed anonymity. In addition, no reports are developed for school districts or for states. The sample design does not permit making inferences to any geographic unit smaller than a region. The United States is divided into four regions for sampling purposes.

Results are reported for the nation, four regions of the country, sex, race, size and type of community, and level of parental education for each age group. No comparisons are made of individual students, schools, school districts or states.

The project reports results on all items and, in addition, releases the entire text of approximately half of the items. This allows for a detailed understanding of the assessment's purposes and construction and for greater flexibility in interpretation or further analysis. The unpublished items are kept secure and used in subsequent assessments of the learning area to measure change over time. Although the project does not interpret the assessment data,

National Assessment learned from its first few reports that numbers and statistics alone are not sufficient for results to be widely used by the public, policy makers, or practitioners in the field. To meet the needs of these constituents, a variety of reports for each assessment are prepared including selective reports (dealing with subsets of items) and a general overview.

Technical reports are prepared for the research and evaluation units of state and local education agencies and the educational research community. In addition, a brochure which provides a nontechnical summary of the assessment is prepared.

These reports provide information that is used in the processes of making policy decisions at the local, state and national levels. However, the current level of usage of such information is not satisfactory. More could and should be done with this information. How do we "attack" this problem?

National Assessment is proposing to attack the problem with at least two major efforts. The first major effort is an intensive review of the Assessment by the education community to identify areas of the program's design where refinements or alterations should be considered to ensure better use of the assessment's products. (There is a strong possibility that this review will occur during the next two years. Discussions have been initiated with several foundations who have indicated an interest in supporting such a review of the Assessment.) The second major effort necessary to increase utilization of assessment products requires the assessment staff to implement design refinements and/or alterations and to do a better job of informing policy-makers about the assessment results and products.

What are assessment products? Information currently available, information that could be collected using existing materials and procedures, and information that could be generated by secondary analysis of currently available data are defined as assessment products. These are the products that policy-makers should know more about and have available for use in making policy decisions. The Assessment is presently taking steps to promote both a knowledge of these products and their availability to decision-makers at the local, state and national levels.

Prior to providing examples of uses of assessment products at the local, state, and national levels, a context needs to be established, and three dichotomies are useful in establishing the context. First, assessment products can be divided into "findings" and "materials". "Findings" refer to the factual information reported by National Assessment, e.g., the decline of 9-year-old students' performance in the areas of mathematical problem-solving. "Materials" refer to the items and procedures developed by the Assessment that are available for others to use. The second dichotomy concerns the level of utilization--"micro" or "macro". "Micro" refers to use at the level of an individual instructional or educational program, e.g., a local ESEA Title I effort or the instructional program for writing within an individual school district. "Macro" refers to the evaluation of more complex educational efforts, e.g., compensatory education or reading programs at the state and national levels.

The third dichotomy divides utilization into "direct" and "indirect" effect. "Direct" utility refers to cases of "because we found this, we are taking these actions". "Indirect" utility is best explained by example. As declining test scores were reported, public pressure grew until state legislatures and/or boards of education responded by taking actions with regard to minimal competency testing. Factual information or "findings" indirectly lead to specific actions through the expression of public concern. "Indirect" utility also relates to "materials". A state using National Assessment materials in a state assessment which results in information being used in the policy decision process is a direct use of assessment products that "indirectly" lead to the decision.

These three dichotomies are useful in establishing a context for discussing the utilization of assessment products in at least two ways. First, the dichotomies help to define a domain. For example, the utilization of National Assessment "materials" in the "macro" evaluation of a state's educational program which resulted in decision-makers taking action is an example of an "indirect" utilization of Assessment products. As utilization is discussed, it is helpful to define the domain in these terms. Discussion which limits examples to the "direct" use of "findings" for "macro" evaluations are appropriate, but conclusions reached in such a limited discussion cannot be validly generalized to the broader domain of utility in general. This brings me to my second point. The three dichotomies provide a rather strong reminder of the complexities that must be considered in discussing the utility and utilization of a data base such as National Assessment. Now for some examples.

An Art teacher in Chicago, Rae Lynn Schneider, teaches in a middle school that serves students from varied cultural backgrounds and where many of the students are not fluent in English. How best to assess the needs of these students and plan appropriate instructional programs was a problem faced by Ms. Schneider. She turned to National Assessment art materials to address the problem of student needs. The information she gains from her "assessments" of students is an example of "materials" being used for "micro" program evaluation, which represents an "indirect" use of National Assessment products for policy decisions.

Cheyenne Mountain (Colorado) Public Schools have used National Assessment materials to assess their students in both mathematics and writing. Items and assessment procedures have been used by this school system. National, regional and type-of-community data have been used to compare local results with National Assessment collected performance information. Based on these results local district curriculum-related policy decisions have been made. This provides an example of "micro" program evaluation using National Assessment "materials" and item level performance "findings" which resulted in local level policy decisions. This is an example of both "direct" and "indirect" use of assessment products.

Another example at the local level is the use that the Lincoln Public Schools made of National Assessment writing assessment materials. Students performance was assessed using procedures and some items developed by the National Assessment. Based on the resulting information, instructional policy decisions designed

to improve writing performance were made and implemented. Another example of "micro" "indirect" use of assessment "materials."

Moving to the state level for examples quickly surfaces the uses the state of Maine has made of assessment products. Maine was one of the first states to replicate a portion of the National Assessment. Their first assessment results demonstrated the need for special instructions for French-speaking students and contributed to the development and implementation of an instructional television program to serve these students. More recent has been the use of assessment items to determine if there is a need for a statewide minimal competency testing program. This contracted study used many National Assessment items in determining that most students perform well on "basics" and that a minimal competency testing program was not necessary in Maine. These examples can be categorized as "macro" program evaluation, direct utilization of "materials", and the "indirect" use of "findings."

Twelve states have replicated portions of National Assessment. At least thirty-eight states have made use of Assessment items and/or procedures. Replications do not always provide examples of "policy decision" utilization, but they have provided numerous examples of the "indirect" use of National Assessment products (both "findings" and "materials") in "macro" evaluation.

Examples at the national level tend to be "macro". However, I would like to mention two examples which to me represent instances of "micro" utilization before proceeding to other examples at the national level.

The first example deals with the Department of Defense Dependents Schools (DoDDS) which is responsible for the education of 140,000 children of U. S. military and civilian personnel attending their facilities in 22 countries. Utilizing National Assessment items and procedures, DoDDS students participated in a special assessment of writing mechanics this past school year, and their performance was compared to that of their peers attending schools throughout the United States. The results of this survey have been used in reaching several organizational and curricular policy decisions within DoDDS. This provides another example of the "micro" use of assessment "materials" and "findings" and "indirect" utilization.

The second example concerns the use a commercial publisher is making of National Assessment data in developing instructional materials. Based on results for Hispanic students, the publisher has developed specific instructional implications that will be utilized in developing new reading materials. I have chosen to consider this to be a "micro" example because it deals with instructional materials to be designed for use at a local level; it is an "indirect" utilization of "findings".

At the macro level, examples come from the uses of Assessment products made by professional organizations. The National Council of Teachers of Mathematics

(NCTM) is preparing interpretive reports on the NAEP mathematics data for use by classroom teachers, administrators, researchers and the general public. In addition, the data are being used as a basis for NCTM's recommendations for the mathematics curriculum of the 1980s. After the first mathematics assessment, NCTM used the results in developing suggestions for improving instruction at the classroom level. School district and classroom actions taken as a result of the NCTM efforts provide examples of another type of "indirect" use of National Assessment "findings" in the "macro" evaluation of mathematics instruction.

The International Reading Association (IRA) has also used National Assessment "findings" in statements pertaining to the status of national reading performance. Again, this is an example of the "indirect" use of assessment "findings" for "macro" evaluation.

National Assessment results have been presented to numerous congressional committies. As a result the following comments have been made by Congressmen and Senators about the value of National Assessment:

> "In hearings before the committee in July 1977, the committee was impressed by the extent and quality of the information provided by the National Assessment."

> "The committee believes that National Assessment should be maintained and strengthened as a major means of monitoring the education attainment of children. . . " (Senate Subcommittee, 1978)

> "I feel it is important for the subcommittee to consider the meaning of these findings . . . I also believe that it is very important that we debate these findings because a knowledge of advanced mathematics is essential to our continued supremacy in science and technology." (Perkins, October 23, 1979)

It is difficult to trace what, if any, decisions have resulted from the congressional reaction to National Assessment information. But to suggest that it has had no impact would appear to be inaccurate.

Probably the most difficult type of utility to observe and document is the effect of assessment findings on public opinion and the effect of that public opinion on policy decisions. The reporting of declining academic performance contributed to the policy decisions made in the minimal competency testing movement. The degree of this impact can not reliably be measured but few would suggest that the impact did not exist. And to try to divide the effect between the reporting of SAT, ACT and National Assessment data as well as other sources of data would be an impossible task. But, the impact is felt. Assessment data are a force in the policy decision process. The goal is to maximize the usefulness of these data by improving data validity, accessibility and utility.

National Assessment is taking steps to achieve this goal. The intensive review of the Assessment should provide information upon which to base decisions pertaining to the allocation of resources to increase utilization of assessment products. One of the main questions to be considered is where should emphasis be placed on increasing services--to state and local education agencies, to researchers interested in secondary analysis or federal agencies. Increased services to all are desirable. The policy decisions made by the Assessment Policy Committee, the governing board for National Assessment, will determine the utility emphasis for the project. The emphasis on "findings" and "materials", on "macro" and "micro" program evaluation, and on "direct" and "indirect" uses in policy

decisions will be determined by the Assessment Policy Committee. You, and other members of the education community, will be given an opportunity to voice your opinions during the review of the Assessment and prior to utility policy decisions. Your concerns and needs should be heard. Your involvement in this process is important. So let us hear from you.